

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007313**Date Inspected:** 17-Jun-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 730**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**Contractor:** Japan Steel Works**Location:** Muroran, Japan

CWI Name:	Chung Fu Kuan		
Inspected CWI report:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A

CWI Present:	Yes	No
Rod Oven in Use:	Yes	No N/A
Weld Procedures Followed:	Yes	No N/A
Verified Joint Fit-up:	Yes	No N/A
Approved WPS:	Yes	No N/A
Delayed / Cancelled:	Yes	No N/A

Bridge No: 34-0006**Component:** Tower, Jacking, and Deviation Saddles**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. Art Peterson was present during the times noted above for observations relative to the work being performed in Fabrication shop #4 and the Foundry shop at Japan Steel Works.

Machine Shop #4:

Final Machining Operation on Saddle: Tower Saddle Segment T1-1 (cast section welded to steel section)

The QA Inspector observed that tower saddle segment T1-1 is located in Machine Shop #4 to have the final machining performed. On this date, the QA Inspector observed that the interior of the north cable trough is being milled to final dimensions on the tower saddle segment.

Fabrication Shop #4:

NDT operation pending on Saddle: Tower Saddle Segment T1-2 (cast section welded to steel section)

The QA Inspector observed that Nikko Inspection Services (NIS) Quality Control (QC) NDT personnel have not completed the magnetic particle test (MPT) inspection (dry method) on the complete-joint penetration (CJP) and partial-joint penetration (PJP) groove welds of the rib plate to base plate, rib plate to stem plate, and stem plate to base plate of tower saddle segment T1-2. The QA Inspector observed that no other work was performed on tower saddle segment T1-2 on this date.

Grinding Operation pending on Saddle: Tower Saddle Segment T1-3 (cast section welded to steel section)

The QA Inspector was informed by Quality Control Inspector Mr. Chung Fu Kuan that Nikko Inspection Services (NIS) have not completed the magnetic particle test (MPT) inspection on the partial-joint penetration (PJP) and

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

complete-joint penetration (CJP) groove welds. Mr. Kuan informed the QA Inspector that NIS previously detected MPT indications which will need to be repaired with a grinder prior to the re-inspection of the PJP and CJP groove welds. The QA Inspector observed that no other work was performed on tower saddle segment T1-3 on this date.

Storage of Saddle: West Deviation Saddle Segment W2-E1 (cast section welded to steel section)

The QA Inspector observed that west deviation saddle segment W2-E1 is located in Fabrication Shop #4. The QA Inspector observed that no other work was performed on west deviation saddle segment W2-E1 on this date.

Storage of Saddle: West Deviation Saddle Segment W2-E2 (cast section welded to steel section)

The QA Inspector observed that west deviation saddle segment W2-E2 is located in Fabrication Shop #4. The QA Inspector observed that no other work was performed on west deviation saddle segment W2-E2 on this date.

Machine Shop #2

Final Machining Operation pending on Saddle: West Deviation Saddle Segment W2-E3

The QA Inspector observed that west deviation saddle segment W2-E3 is located in Machine Shop #2. The JSW personnel completed the dimensional inspection and verified the locations of the ribs and stem against the approved drawings. Afterwards, the JSW personnel scribed the assembly control lines (ACL) on the edges of the ribs, stem and base plate for reference points during the machining operation. The QA Inspector observed that the machining operation has not started on west deviation saddle segment W2-E3 on this date.

Fabrication Shop #4

NDT Operation in process on Saddle: West Deviation Saddle Segment W2-W1 (cast section welded to steel section)

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) NDT Inspector Mr. R. Kumagai (#132) performing the magnetic particle test (MPT) inspection (dry method) of the partial-joint penetration (PJP) groove welds on the rib plate to base plate, rib plate to stem plate, and stem plate to base plate of west deviation saddle segment W2-W1. The QA Inspector observed that the MPT inspection was in process on west deviation saddle segment W2-W1 at the end of the QA Inspectors' shift.

Beveling Operation in process on Saddle: West Deviation Saddle Segment W2-W2 (steel section)

The QA Inspector observed JSW personnel performing the re-beveling operation on the rib plates and stem plate's prepared edges (face of bevels) of west deviation saddle W2-W2 (steel section). These areas are being re-beveled to the layout marks (scribe lines and punch marks) of the final dimensions of the groove areas prior to the fit-up operation of west deviation saddle W2-W2 (cast section). The QA Inspector observed that the re-beveling operation was in process at the end of the QA Inspectors' shift.

Temporary Attachments welded to Saddle: West Deviation Saddle Segment W2-W2 (cast section)

The QA Inspector observed that the JSW welding personnel completed the welding of the (4) temporary attachments - (stay plates) on the interior of the trough and (2) lifting lugs each on the rib end sections of west deviation saddle segment W2-W2. The QA Inspector observed that no other work was performed on west deviation saddle segment W2-W2 on this date.

Grinding Operation in process on Saddle: West Deviation Saddle Segment W2-W3 (built-up section)

The QA Inspector observed the JSW personnel performing the gouging operation by the air-carbon-arc method

WELDING INSPECTION REPORT

(Continued Page 3 of 4)

and the grinding operation around the radius of the cope holes- (weld access) after the partial-joint penetration (PJP) groove weld operation was completed on the rib plate to base plate, rib plate to stem plate, and stem plate to base plate of west deviation saddle segment W2-W3. The QA Inspector also observed the JSW personnel performing the grinding operation on the cover passes of the PJP groove welds to a visual acceptable profile prior to Quality Control (QC) Inspector Mr. Chung Fu Kuan performing a visual inspection for acceptance in accordance with the approved shop drawings and AWS D1.5-2002 Section 3.6. The QA Inspector observed that the gouging and grinding operation was in process on west deviation saddle segment W2-W3 at the end of the QA Inspectors' shift.

Weld Operation in process on MC Shapes to Rocker Bearing Plate Assembly: East Saddle E2-W1

The QA Inspector observed the fillet weld operation on the miscellaneous channel (MC) to the rocker bearing plate of the rocker bearing plate assembly for location E2-W1. The QA Inspector observed Quality Control (QC) Inspector Mr. Chung Fu Kuan verify prior to and during the weld operation that the minimum preheat temperature of 110 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. T Inoue (08-5163) fillet welding MC piece mark no. 21-2 to rocker bearing plate piece mark no. 21-1 were in compliance with WPS SJ-3177-4 per the SMAW process in the (1G) flat position using (4.0 and 5.0) mm diameter LB52A electrode. The QA Inspector observed that the fillet weld operation was in process at the end of the QA Inspectors' shift.

Weld Operation pending on End Splay Cover Plate Assemblies: East Saddle E2-W1 and E2-E1

The QA Inspector observed that no welding was being performed on the cover plate stiffeners to cover base plate of the end splay cover plate assemblies for east saddle E2-W1 and E2-E1. The QA Inspector observed that no other work was performed on the end splay cover plate assemblies for E2-W1 and E2-E1.

Foundry:

Re-location in process of Saddle: West Deviation Saddle Segment W2-W3 (cast section)

The QA Inspector observed that west deviation saddle segment W2-W3 (cast section) is being re-located to Machine Shop #2. Afterwards, the JSW personnel will perform the dimensional inspection of the ribs and stem of the west deviation saddle segment to verify the location and dimensions of the ribs and stem against the approved dimensional drawings. The JSW personnel will place the layout marks (scribe lines and punch marks) based on the assembly control lines of the ribs and stem of the west deviation saddle. The QA Inspector observed that the re-location of west deviation saddle segment W2-W3 was in process at the end of the QA Inspectors' shift.

Excavation Map in process on Cast Saddle: East Saddle E2-E1 (cast saddle)

The JSW Representative Mr. Hideaki Kon informed the QA Inspector that the JSW personnel are preparing the major and minor repair excavation maps along with the proposed repair procedures that will be submitted as an engineering communication sheet (ECS) to American Bridge Fluor (ABF) for approval by the Caltrans Engineer of the Major repairs prior to the start of the repair weld operation. The excavated areas were previously inspected by NIS QC NDT Inspector Mr. K. Nishida (#311) by the liquid penetrant test (PT) method and the magnetic particle test (MPT) method to ensure the complete removal of the rejectable indications. The QA Inspector observed that the JSW personnel were in process on preparing the excavation maps for east saddle E2-E1 at the end of the QA Inspectors' shift.

Weld Operation in process on Cast Saddle: East Saddle E2-W1 (cast saddle)

WELDING INSPECTION REPORT

(Continued Page 4 of 4)

The QA Inspector observed the repair weld operation on excavated areas on exterior of the trough on the identification (ID) side of east saddle E2-W1. The QA Inspector observed Quality Control (QC) representative Mr. T. Imai verify prior to and during the weld operation that the minimum preheat temperature of 150 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. Y. Kabutomori (06-8000) were in compliance with WPS SJ-3026-4 per the SMAW process in the horizontal position using (5.0) mm diameter E9016-G electrode. The QA Inspector observed that the repair weld operation was in process at the end of the QA Inspectors' shift.

Shaping Operation in process on Saddle: West Jacking Saddle (cast saddle)

The QA Inspector observed the JSW personnel performing the shaping (scarfing) operation- (removal of excess cast material on the rough casting) by the air-carbon arc gouge method using (19) mm diameter carbon electrode on the opposite side of the identification (ID) side on the trough, stem and rib sections of the west jacking saddle to profile the trough, stem, and rib sections of the west jacking saddle to the proper shape, dimension and radius. The QA Inspector observed that the JSW personnel were in process on the shaping operation at the end of the QA Inspectors' shift.

Unless otherwise noted, all observations reported on this date appeared to be in general compliance with the applicable contract specifications.

Summary of Conversations:

No significant conversations were reported on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy, 510 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Peterson, Art	Quality Assurance Inspector
Reviewed By:	Guest, Kittric	QA Reviewer
